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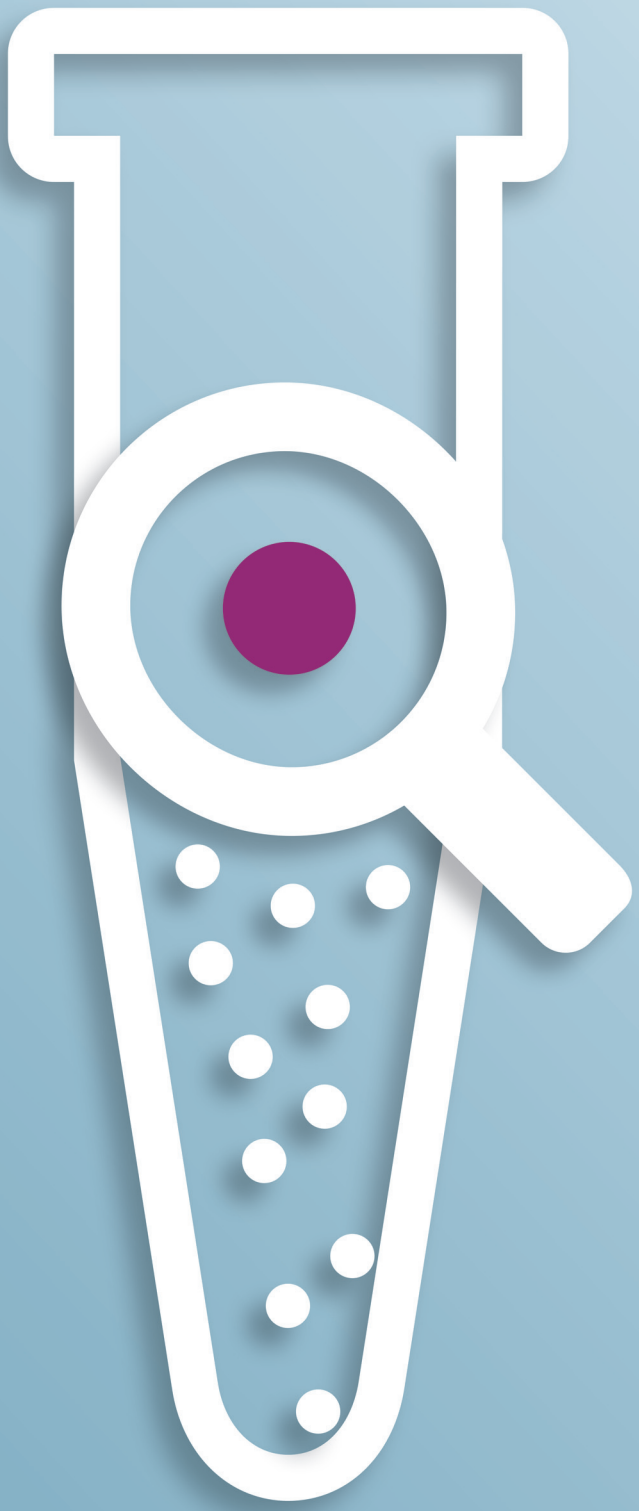

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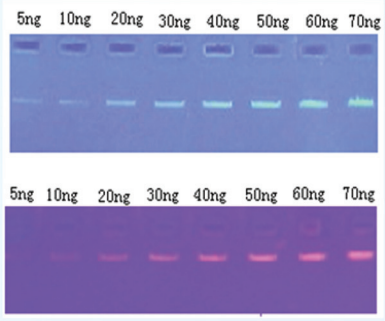
GoodView™ Nucleic Acid Stain

——An alternative to EB

GoodView™ is a new nucleic acid stain, an alternative to the traditional ethidium bromide (EB) stain for detecting nucleic acid in agarose gels. It emits green fluorescence when bound to DNA or RNA. This new stain has two fluorescence excitation maxima when bound to nucleic acid, one centered at 268 nm and another at 294 nm. In addition, it has one visible excitation at 491 nm. The Fluorescence emission of GoodView™ bound to DNA is centered at 530 nm.

Comparative sensitivity test of GV and EB



Sensitivity test result of GV at UV 300nm.

Sensitivity test result of EB at UV 300nm.

The result of electrophoresis demonstrates GV is almost as sensitive as EB.

The Test Report from Institute for Environmental Health and Related Product Safety of Chinese Center for Disease Control and Prevention concludes that:

- Acute Oral Toxicity Test: GoodView™ Nucleic Acid Stain belongs to nontoxic.
- Mouse Marrow Chromophilous Erythrocyte Micronucleus Test: Negative. There is no significant difference in the incidence of micronuclei between test and control groups.
- Ames Test: Negative. No mutagenicity was observed.
- In Vitro Mammalian Cell Chromosome Aberration Test: Negative. No increasing aberration rate was observed.

The test report is available upon request.

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Comparison of Liquid Handling Methods*

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Amount of DNA	50 ng	0.06 – 2.0 ng
DNA volume (Rxn)	25 µL	200 nL
Library prep volume (Rxn)	25 µL	300 nL
Total volume	50 µL	0.5 µL
Reactions per kit	96	9600
Cost per reaction	$72.91	**$0.73**

For more information, visit www.labcyte.com/**sequencing.**

** Low-Cost, High-Throughput Sequencing of DNA Assemblies Using a Highly Multiplexed Nextera Process. Shapland et al. ACS Synth. Biol., 2015*

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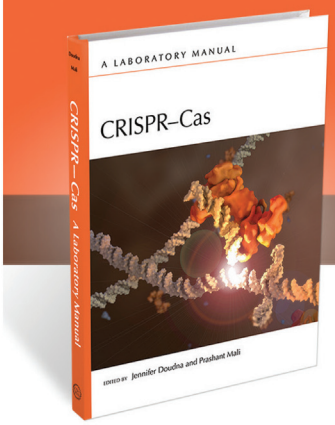
The art of delivery systems



CRISPR-Cas

A Laboratory Manual

CSH PRESS

The essential guide to CRISPR-Cas

Edited by Jennifer Doudna, *University of California, Berkeley;*
Prashant Mali, *University of California, San Diego*

The development of CRISPR–Cas technology is revolutionizing biology. Based on machinery bacteria use to target foreign nucleic acids, these powerful techniques allow investigators to edit nucleic acids and modulate gene expression more rapidly and accurately than ever before.

Featuring contributions from leading figures in the CRISPR–Cas field, this laboratory manual presents a state-of-the-art guide to the technology. It includes step-by-step protocols for applying CRISPR–Cas-based techniques in various systems, including yeast, zebrafish, *Drosophila,* mice, and cultured cells (e.g., human pluripotent stem cells). The contributors cover web-based tools and approaches for designing guide RNAs that precisely target genes of interest, methods for preparing and delivering CRISPR–Cas reagents into cells, and ways to screen for cells that harbor the desired genetic changes. Strategies for optimizing CRISPR–Cas in each system—especially for minimizing off-target effects—are also provided.

Authors also describe other applications of the CRISPR–Cas system, including its use for regulating genome activation and repression, and discuss the development of next-generation CRISPR–Cas tools. The book is thus an essential laboratory resource for all cell, molecular, and developmental biologists, as well as biochemists, geneticists, and all who seek to expand their biotechnology toolkits.

2016, 192 pages, illustrated (20 color, 4 B&W), index

Paperback: Print Book + eBook $210	**Print Book $110**	**eBook $100**	**ISBN 978-1-621821-31-1**
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11th AACR Conference on

THE SCIENCE OF CANCER HEALTH DISPARITIES IN RACIAL/ETHNIC MINORITIES AND THE MEDICALLY UNDERSERVED

November 2-5, 2018 | Sheraton New Orleans Hotel | New Orleans, LA

Submit an Abstract By: Wednesday, July 18, 2018
Register and Save By: Tuesday, September 18, 2018

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ABOUT THIS CONFERENCE

The AACR Science of Cancer Health Disparities conferences advance the understanding of, and ultimately help to eliminate, the disparities that represent a major public health problem in our country. Reflecting this transdisciplinary field, professionals from academia, industry, government, and the community are brought together to promote the exchange of novel ideas, discuss the latest findings in the field, and stimulate the development of new research on cancer health disparities.

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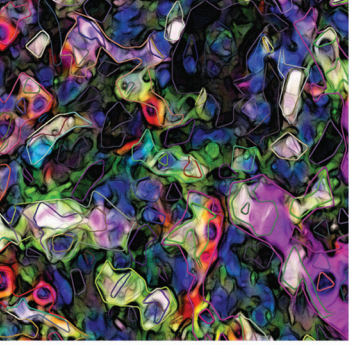
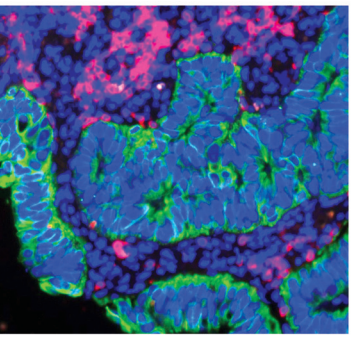
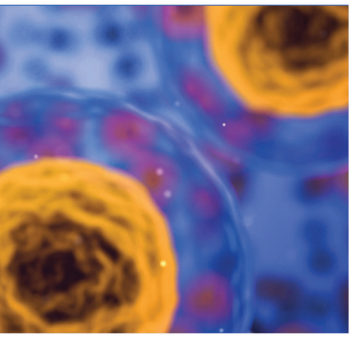
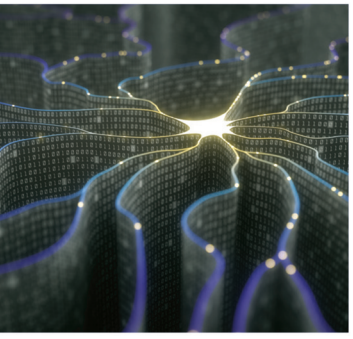

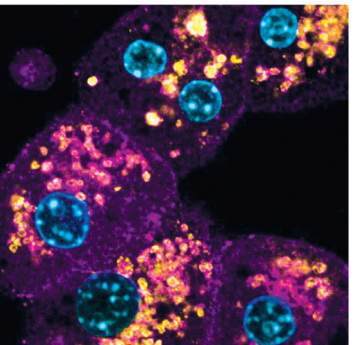

2018 SCIENTIFIC CONFERENCES

Presenting the most significant research on cancer etiology, prevention, diagnosis, and treatment

12th Biennial Ovarian Cancer Research Symposium
Conference Cochairs: Frances R. Balkwill, Mary L. (Nora) Disis, Pamela S. Ohashi, and Elizabeth M. Swisher
September 13-15, 2018 | Seattle, WA

Pancreatic Cancer: Advances in Science and Clinical Care
Conference Cochairs: Ronald M. Evans, Manuel Hidalgo, Steven D. Leach, Gloria M. Petersen, and Brian M. Wolpin
September 21-24, 2018 | Boston, MA

Second AACR International Conference on Translational Cancer Medicine
Conference Cochairs: Carlos L. Arteaga, Carlos Gil M. Ferreira, and Gabriel A. Rabinovich
September 27-29, 2018 | São Paulo, Brazil

Intestinal Stem Cells and Colon Cancer: Biology to Therapy
Conference Cochairs: Anil K. Rustgi, Johanna Bendell, Hans Clevers, Christina Curtis, and Owen Sansom
September 27-30, 2018 | Washington, DC

Metabolism and Cancer
Conference Cochairs: Ralph J. Deberardinis, Tak W. Mak, Joshua D. Rabinowitz, and M. Celeste Simon
September 28-October 1, 2018 | New York, NY

Fourth CRI-CIMT-EATI-AACR International Cancer Immunotherapy Conference: Translating Science into Survival
Conference Cochairs: Nina Bhardwaj, Christoph Huber, Elizabeth M. Jaffee, and Guido Kroemer
September 30-October 3, 2018 | New York, NY

EACR-AACR-ISCR Conference: The Cutting Edge of Contemporary Cancer Research
Conference Cochairs: Richard M. Marais, Eli Pikarsky, and Robert A. Weinberg
October 9-11, 2018 | Jerusalem, Israel

30th Anniversary AACR Special Conference Convergence: Artificial Intelligence, Big Data and Prediction in Cancer
Conference Cochairs: Phillip A. Sharp and William C. Hahn
October 14-17, 2018 | Newport, RI

11th AACR Conference on The Science of Cancer Health Disparities in Racial/Ethnic Minorities and the Medically Underserved
Conference Cochairs: Ivis Febus-Sampayo, Laura Fejerman, Scarlett Lin Gomez, Augusto C. Ochoa, and Brian M. Rivers
November 2-5, 2018 | New Orleans, LA

EORTC-NCI-AACR Molecular Targets and Cancer Therapeutics Symposium
Scientific Committee Cochairs: Charles Swanton, James L. Gulley, and Antoni Ribas
November 13-16, 2018 | Dublin, Ireland

AACR-KCA Joint Conference on Precision Medicine in Solid Tumors
Program Committee Cochairs: Tae-You Kim and Charles L. Sawyers
November 15-17, 2018 | Seoul, South Korea

Tumor Immunology and Immunotherapy
Conference Cochairs: James P. Allison, Lisa M. Coussens, Ira Mellman, and Drew M. Pardoll
November 27-30, 2018 | Miami Beach, FL

Innovation and Biomarkers in Cancer Drug Development: A Joint Meeting Presented By EORTC, NCI, EMA, and AACR
Organizing Committee Chair: Denis A. Lacombe
November 29-30, 2018 | Brussels, Belgium

Targeting PI3K/mTOR Signaling
Conference Cochairs: Lewis C. Cantley, David M. Sabatini, and Jean J. Zhao
November 30-December 3, 2018 | Boston, MA

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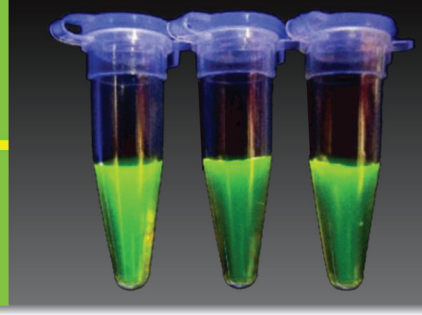
Eprobe® / Eprimer™

Novel fluorescent probe for SNP genotyping / somatic mutation detection



- A DNA-based probe which emits fluorescence when specifically binding to a complementary strand (Fig.1).
- Thiazole orange, one of the available fluorophores used by Eprobe increases melting temperature (Tm) of the probe by approx. 10°C.
- Fluorescence emitted by Eprobe can be detected using a filter for SYBR® Green I. *SYBR is a registered trademark of Molecular Probes, Inc.

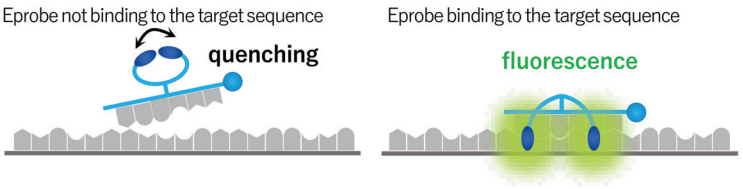


Figure 1. Fluorescence emission mechanism of Eprobe

High resolution SNP detection with Eprobe

- Melting curve analysis after asymmetric PCR with Eprobe can detect genotype of SNP (Fig.2).
- Increased Tm of the Eprobe enables a shorter probe design and a clearer distinction of single nucleotide substitution.
- Predesigned Eprobes targeting SNP for ADH1B (rs1229984), ADRB2 (rs1042713), ALDH2 (rs671), FTO (rs9939609), UCP1 (rs1800592) and others are available.

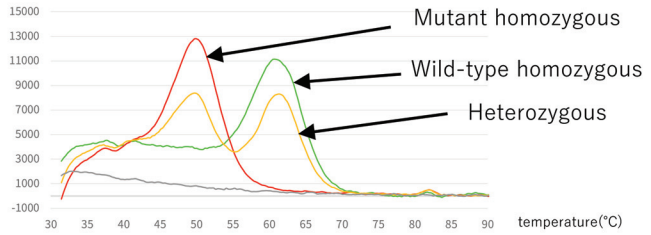


Figure 2. Predesigned Eprobe for IL28B (rs8099917).

Highly sensitive somatic mutation detection

- Highly sensitive detection of somatic mutations (down to 0.1%) can be achieved (Fig.3) by suppression of PCR amplification of wild-type alleles by Eprobe (PCR clamping).

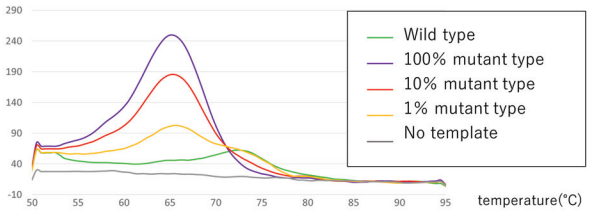


Figure 3. Predesigned Eprobe for G12D in the KRAS gene.

Pricing and ordering information

Product	Fluorophore	Quantity	List price	
Eprobe Modification: 3' Spacer C3.	Thiazole Orange	1.5 nmol	¥19,000	~~¥38,000~~
		3.0 nmol	¥30,000	~~¥60,000~~
		5.0 nmol	¥45,000	~~¥90,000~~
		10.0 nmol	¥70,000	~~¥140,000~~
	Thiazole Pink	1.5 nmol		¥45,000
		3.0 nmol		¥70,000
		5.0 nmol		¥110,000
		10.0 nmol		¥170,000

Product	Fluorophore	Quantity	List price	
Eprimer 3' unmodified: Extension from the 3' end is possible.	Thiazole Orange	1.5 nmol	¥19,000	~~¥38,000~~
		3.0 nmol	¥30,000	~~¥60,000~~
		5.0 nmol	¥45,000	~~¥90,000~~
		10.0 nmol	¥70,000	~~¥140,000~~
	Thiazole Pink	1.5 nmol		¥45,000
		3.0 nmol		¥70,000
		5.0 nmol		¥110,000
		10.0 nmol		¥170,000

- Excitation/Emission wave length (nm): Thiazole Orange: 510/530, Thiazole Pink: 570/590.
- Purification: HPLC, Shipping format: dry.
- Shipping charge: 11,000 JPY/ shipment.

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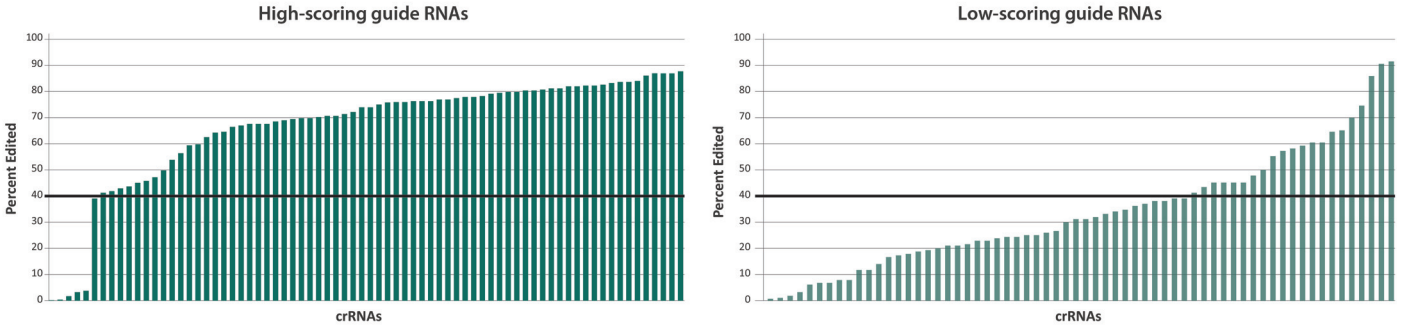
crRNAs that have high functionality scores show high editing efficiency



HEK293T-CAG-Cas9 cells were transfected with either high-scoring or low-scoring crRNAs (50 nM crRNA:tracrRNA) using DharmaFECT 1 transfection reagent (0.25 µL/well) in 96-well format. Gene editing efficiencies were determined using next-generation sequencing. 93% of the top 10 high-scoring crRNAs targeting ten different genes have > 40% indel formation and only 33% of the 10 lowest scoring designs have > 40% indel formation.

dharmacon.com/CRISPR